VDC-300
USER'S MANUAL

82-055-00010

Copyright Information

FCC Statement

This digital equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if it is not installed and used according to the instruction manual, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off or on, try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Increase the distance between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

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Preface

Thank you for your purchase of the VDC-300. This guide covers all of the features and functions of the camera.
In this user guide you will find the following topics:

Chapter 1: Getting Started
This chapter explains how to make your camera operational.

Chapter 2: Camera Operation
This chapter gives you step-by-step instructions on how to operate the various functions of the camera.

Chapter 3: Getting Connected
This chapter gives you detailed instructions on how to connect and use the camera with the TV, VCR, and computer.

Chapter 4: Software Applications
This chapter describes in detail how to use the camera's software (The Photo Album).

Chapter 5: ViewFun
This chapter explains the features and functions of the included multi-function software.

Appendices
Provides troubleshooting information and specifications for the camera along with a manual index and technical support information.

Chapter

1 Getting Started

Supported Computer Systems

This camera complies with the TWAIN standards, the industry standard for imaging hardware and software. TWAIN eliminates compatibility problems with software and input devices from different vendors. The following are the minimum system requirements for optimum performance with color images:

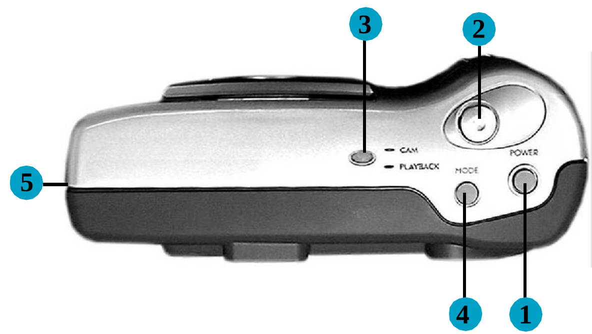
- Pentium/486 PC or notebook computer
- Windows 95/NT 4.0/98
- 16 MB RAM
- 20 MB available hard disk space for software installation
- VGA or Super VGA color monitor

Package Contents

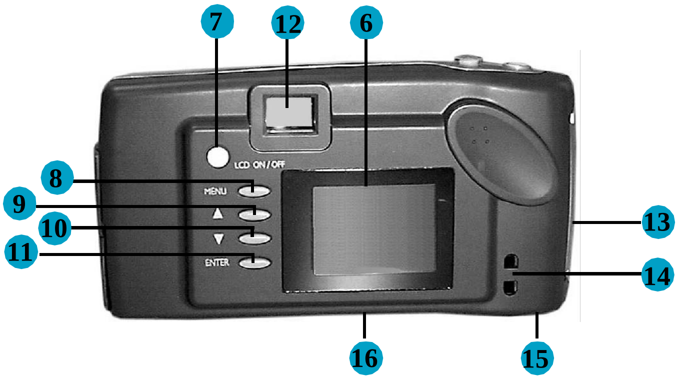
- VDC-300 camera including 4 AA batteries
- USB and RS232 connection cables
- NTSC and PAL video output cable
- 7.5V DC, 2A Power Adapter
- Camera strap and carrying bag
- Installation CD (TWAIN Driver, iPhoto)
- User's Manuals

Your Video Digital Camera

The camera is equipped with a number of different features and functions. To better understand and familiarize yourself with these features and functions, please refer to the following pages before using the camera.



1. **Power Button**: Turns the camera on/off.
2. **Shutter button:** Captures the image into the camera.
3. **LED Indicator:** Displays the current camera mode (green=camera, orange = playback).
4. **Mode Button:** Switches between the two camera modes (capturing images and displaying them).
5. **Cable Panel:** Contains the AC Power Adapter, USB, Video, and RS232 connection terminals.



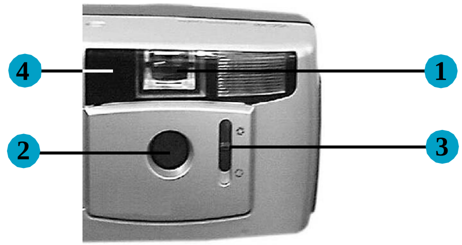
6. **LCD Panel:** The Liquid Crystal Display panel allows you to view real-time display, the menu functions, and image playback.
7. **LCD On/Off:** Turns the LCD on or off.
8. **Menu Button:** Displays the camera's function menu in the LCD.
9. **Select (Up):** Scrolls up/backward through the function menu or captured images.
10. **Select (Down):** Scrolls down/forward through the function menu or captured images.
11. **Enter Button:** Selects the options from the function menu.
12. **Viewfinder:** Allows for viewing of the subject.

13 **Compact Flash Card Panel:** Allows for insertion or removal of the optional CF card.

14 **Strap Holder:** Allows the camera strap to connect to the camera for easy and safe carrying.

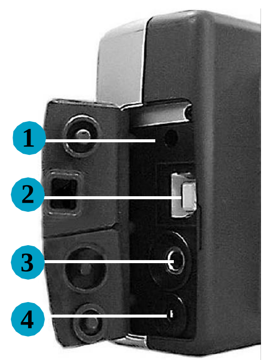
15 **Battery Compartment:** Allows for loading or unloading of the batteries.

16. **Tripod Holder:** Allows a tripod to be secured to the bottom of the camera.



1. **Viewfinder:** Allows you to position the subject in the image that will be captured.
2. **Lens:** Allows the camera to focus on the subject and to capture the image once the shutter button has been pressed.
3. **Iris Selector:** Allows for the adjustment of light levels entering the camera.
4. **LED Indicator:** Alerts you when the self-timer is about to take the picture.

1. **AC Power Adapter Terminal:** Allows the camera to be connected to an AC power supply.
2. **USB Terminal:** Allows the camera to be connected to a computer via a USB interface.
3. **RS232 Terminal:** Allows the camera to be connected to a computer via a serial interface.
4. **Video Terminal:** Allows the camera to be connected to a television or VCR.



Power Supply

Installing the Batteries

The camera comes with 4 AA alkaline batteries. Please refer to the inside of the battery compartment lid or the following illustration to properly install the batteries.

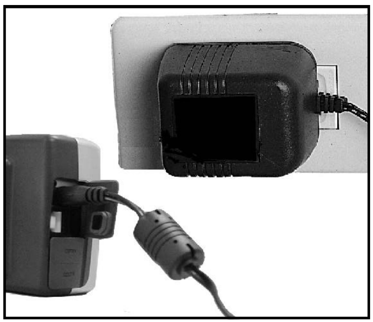


Using an AC Adapter

To save battery power, you may also use a standard (7.5v/2 amp) AC power adapter.

To connect an AC power adapter:

- Plug the adapter into an appropriate AC outlet.
- Open the panel and insert the power adapter into the top slot as shown.



Low-Battery Indicator

When the battery power becomes low, the battery icon will display and blink in your LCD. To continue to use the camera, either replace the batteries or connect the AC power adapter. The images will remain in the camera's memory for an indefinite period of time.

Note: Extended use of the LCD causes rapid battery usage. Therefore, we recommend using rechargeable batteries or the AC power adapter whenever possible.

Compact Flash Card

The camera is equipped with a built-in Compact Flash Memory Card port that allows you to use an optional, DOS compatible, compact flash card (CF card) to store images. Using a CF card overrides the internal memory of the camera enabling you to capture more images if the internal memory is full.

You may use the optional CF card to store your images. Each MB of memory can store approximately 4 High, 10 Standard, or 23 Economic quality images, or any combination of the three.

Note: Do not use a CF card with a memory capacity over 32 MB or you will render the camera inoperable.

Note: Installing a new CF card requires a small amount of the CF card's memory capacity to create a directory for storing images.

Installing the Compact Flash Card

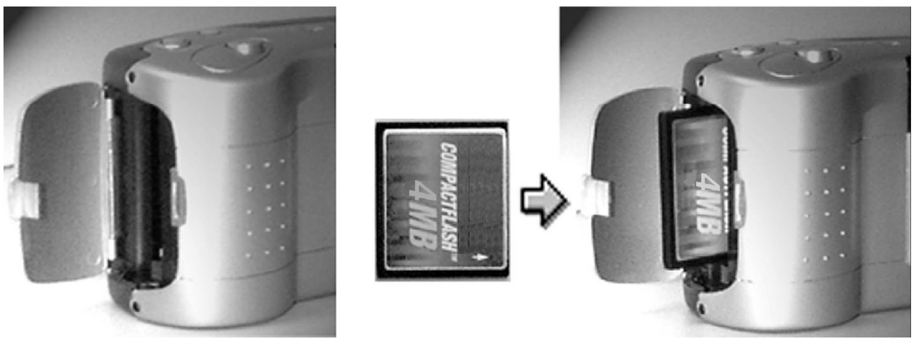
- Open the CF card panel (shown below).
- Slide the CF card firmly into the slot (shown below).
- Close the CF card panel.

Once a CF card is installed it automatically becomes the main memory of the camera, and all functions of the camera (quality, protect, etc.) refer to the images on or being captured to the card and not images in the internal memory. To return the function reference to the camera's internal memory, simply remove the CF card.

Removing the Compact Flash Card

Open the CF card panel and pull the CF card out of the slot.

Note: The camera will signal you with two short beeps every time you insert or remove the CF card, as well as every time you turn the camera's power on.



Chapter

2 Camera Operation

Camera Operation

This chapter explains the camera's operation features and settings in detail.

The camera has two modes, Camera and Playback. Both modes offer various functions specific to that particular mode. The LED on the top of the camera will display the current mode you are in (Green = Camera, Orange = Playback). In order to use the individual functions of each mode, you must first display and select them using the appropriate LCD menu.

The LCD Menu- Camera Mode

- Power on the camera.
- Press the Menu button. The camera mode functions are displayed on the LCD.

Selecting a Camera Function:

1. Use the Up/Down buttons to scroll through the list of options.
2. Press Enter to select or toggle an option.
3. A red up or down arrow indicates there are additional menu selections available.
4. Press the menu button to exit the menu screen.
5. The selected function's icon is displayed on the LCD panel.

Functions

The following menu lists the functions available in Camera mode.

MENU

FLASH:	ON/ON /AUTO/ AUTO /OFF
QUALITY:	ECON/STD/HIGH
W.B.:	AUTO/OUTDOOR INDOOR+/INDOOR-
EXPOSURE:	-2/-1/0/+1/+2
SELF-TIMER:	YES/NO
AUTO-OFF:	YES/NO
LCD BRIGHT:	-2/-1/0/+1/+2
TV:	NTSC/PAL
INFO DISP:	YES/NO
LANGUAGE:	ENG,GER,FRE, SPA,ITA,DUT,POR





(1) FLASH:

The camera is equipped with five flash modes:

ON: the flash will fire with every image capture.

ON : the same as ON, preceded by a flash which reduces red-eye.

AUTO: whenever there is insufficient light, the camera automatically detects and fires the flash.

AUTO : the same as AUTO, preceded by a flash which reduces red-eye.

OFF: no flash is fired.

Note: The flash will need to be charged prior to, and right after being used. The flash icon will blink in the LCD and stops once the flash is ready for use.

(2) QUALITY:

Quality determines the file size and the effect of the captured image that is displayed or printed and is based on the amount of compression. High quality images appear sharp since the camera is not compressing the information as much, but also require more space for storage.

There are three quality modes:

- **Economic**- 40 KB of memory space per image.
- **Standard**- 92 KB of memory space per image.
- **High**- 232 KB of memory space per image.

Note: The camera's internal 2 MB memory can store up to 46 Economic, 20 Standard, or 8 High quality images (depending on the compression ratio), or any combination of the three.

(3) White Balance:

White Balance adjusts the camera's color sensitivity to match the prevailing color of white outdoor light, yellow indoor light, or (sometimes) greenish fluorescent light. The camera is equipped with four white balance modes. Select the white balance mode that most closely matches the light in which you're using the camera.

Auto: automatically adjusts according to surrounding light **(default)**

Outdoor: for natural light

Indoor +: for fluorescent lighting

Indoor -: for incandescent lighting (bulb light)

Note: If the image color is not accurate when using the Auto mode, try moving the camera to acclimate the Auto white balance sensor.

(4) Exposure:

Exposure controls the amount of light (brightness) that appears in a captured image. The LCD menu has five exposure settings, ranging from -2 to +2 (darker to lighter), allowing you to control the amount of light in your images.

If your images are too:

- **bright**, decrease (-) the exposure value to darken them.
- **dark**, increase (+) the exposure value to lighten them.

(5) The Self-Timer:

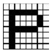
This feature allows you to delay the capturing of an image for ten seconds giving you time to get into some of your own pictures.

To activate this function:

1. Select Self-Timer from the LCD menu.
2. Position the camera on a flat stationary surface or mount it on a tripod.
3. Center the image to be captured using the viewfinder or LCD.
4. Press the Shutter button and get in the picture.

How will I know when the image will be captured?

The LED indicator at the front of the camera blinks, increasing in speed to alert you when the image will be captured. (Blinking rate = 7x @ 1 second + 6x @ 1/2 second)

(6) Auto-Off: 

- Selecting No allows you to continuously use the camera without interruption of power. If you do not perform a camera operation for 10 minutes the LCD automatically shuts off, not the camera.
- Selecting Yes allows the camera to automatically power off whenever you do not perform a camera operation for 90 seconds. To restore power to the camera once it has been turned off, simply press the Power On/Off button.

Note: When the camera is powered off, the following settings and functions will automatically reset to their defaults:

- White Balance: AUTO
- Self-timer: NO
- Exposure: 0
- Auto-off: YES
- Information Display: YES

(7) LCD Brightness Control:

Allows you to adjust the brightness of the LCD panel to accommodate for interior or exterior lighting fluctuations.

There are three LCD settings ranging from -2 (least bright) to +2 (most bright).

- From the Camera menu, select LCD Bright.
- Press Enter until the desired brightness level is selected.

(8) TV:

When the camera is connected to the TV, this function allows you to select the type of system used by the TV.

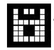
Note: If the image on a color television appears in black and white, try changing the TV setting on the Camera Mode LCD menu.

(9) Information Display:

This feature uses icons (e.g. flash, counter, etc.) to display camera information and settings on the camera LCD.

The information displayed is from one of two sources.

1. If you are not using a CF Card, the information displayed refers to the status of the camera's internal memory.



2. If you are using a CF Card, the information displayed refers to the status of the card.

In Camera mode the number that appears reflects how many images it is possible to capture before the memory is full. This number will vary depending on the quality mode you are using to capture images. For example, high quality images require more memory, thus less images can be captured and stored.

Note: Using a CF card overrides the camera's internal memory (making it non-accessible), diverting all storage to the CF card. To re-enable the camera's internal memory as the main storage area, simply remove the CF card from the camera.

To Disable or Enable the information display:

- From the camera mode menu, select Information Display.
- Press Enter to turn the display off or on.

(10) Language:

This menu option allows you to select the language the LCD menu will appear in.

Capturing Images

There are several factors that should be considered when capturing quality images. Proper positioning, distance, lighting, even holding the camera in just the right way can make all of the difference when capturing quality images.

To capture an image:

1. Power on the camera and ensure that you are in Camera mode (Green LED) by pressing the Mode button.

2. Set the Iris Selector based on the lighting conditions surrounding the subject.
   - Use the (F8.0) setting for brightly lit subjects or for close range shots. This setting reduces the exposure of light.
   - Use the (F2.8) setting for indoor, backlit images, or long range shots. This setting increases the exposure of light.

3. From the LCD Menu, select the White Balance and Quality as described earlier in this chapter.

4. Position the subject in the viewfinder or the LCD (if activated).

5. Gently press the Shutter button, holding the camera steady to obtain a crisp image.

Note: If the memory full indicator is lit when set on high or standard quality it may be possible to capture one or two more economic quality images; because economic quality images take up less memory than high or standard quality images.

Note: When using the flash on an object at or closer than 1.2 meters (4 feet), set the Iris Selector to the setting. However, if the object is further than 1.2 meters (4 feet) set the Iris Selector to the setting.

Processing

When the camera is in Camera Mode and the Shutter button has been pressed, the green/orange LED Indicator will flash on and off and a processing bar will be displayed on the LCD screen (if powered on) until the camera is ready to capture another image.

The LCD Menu- Playback Mode

This mode offers functions specific to captured images and allows you to view your captured images on the LCD or TV. When you switch to this mode, the LCD automatically turns on in single picture mode and the last image captured appears.

Selecting a Playback Function:

1. Press the Menu button.
2. Use the Up/Down buttons to scroll through the list of options.
3. Press Enter to select or toggle an option.
4. Press the Menu button to exit the menu screen.
5. The selected function's icon is displayed on the LCD panel.

The following menu lists the functions available in Playback mode.

4 PIC MODE-	
DELETE MENU-	**HOME/UP/DOWN/DELETE**
DELETE ALL-	**DELETE ALL? YES/NO**
PROTECT:	**YES/NO**



Functions

(1) Four Picture Mode

This function allows you to view four images at once in order to speed up the search process.

Note: You can not access the playback menu while in four picture mode.

Selecting an image from Four Picture Mode

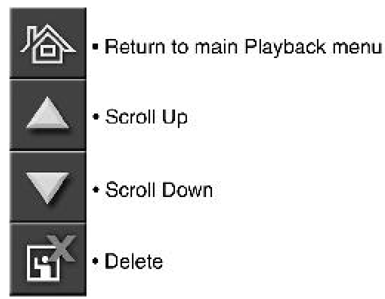
- Using the Up/Down buttons, highlight the image you wish to select.
- Press the Enter button. The image will automatically appear in single picture mode.

(2) Delete Menu:

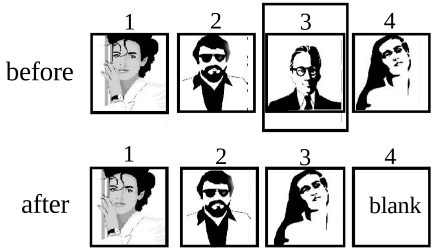
This function allows you to selectively delete any image in the camera's memory.

To delete an image:

1. From the Playback menu, select Delete Menu.
2. The Delete Menu screen will appear showing a thumbnail of the image you selected and giving you four options.



Note: When you delete an image, if there are any other images that are in the camera's memory after that image, they will move up in place.



To delete a protected image:

1. Select the protected image that you wish to Delete.
2. From the Playback menu, select Protect and press Enter to unlock the image.
3. Continue to delete the image as described earlier.

(3) Delete All

This feature enables you to simultaneously delete all of the images, excluding the protected images, from the camera's memory.

1. From the Playback menu, select Delete All.
2. In order to avoid accidental deletion, a pop-up box will display asking you if you want to delete all of the images.

(4) Protecting or Unprotecting Images:

This feature protects images from accidental deletion or Unprotects images for deletion.

To Protect or Unprotect an image:

1. Select the image that you wish to Protect or Unprotect.
2. From the Playback menu, select Protect and press Enter to lock or unlock the image.

Viewing Images

On the Camera LCD

1. Power on the camera and press the mode button to select Playback (Orange LED).

2. Press the Up/Down buttons to scroll through and preview the images.

3. Press Menu to view the Playback LCD menu and use four picture mode, delete, protect, and more.

On the TV

The camera has the ability to display previously captured images on a standard NTSC or PAL television system.

In order to view images on the TV it is essential to connect the camera to the TV. Please refer to the next section, **Getting Connected: Connecting to the TV**, for further instructions.

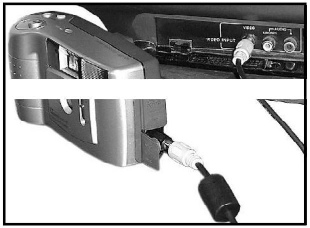
On the PC

The camera can also display images on the PC through TWAIN compliant image editing software, such as iPhoto Plus 4. To use the camera with the PC, please refer to the **Software Applications** chapter.

Chapter

3 Getting Connected

Connecting to the TV



1. Plug one end of the included video cable into the VIDEO IN terminal of your television.

2. Open the cable panel and plug the other end of the cable into the camera's VIDEO terminal.

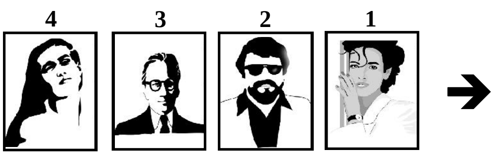
Viewing Images

In order to view images on the TV after connecting, please refer to the following:

1. Turn on the TV and change the TV to the VIDEO mode (the same settings you would select when using your VCR).
2. Turn on the camera and select the Playback mode.
   The last image captured will appear on the television screen.
3. Press the Up/Down buttons to scroll through the images until you reach the desired image.
   Press the Menu button to see the Playback options.

Viewing images with the Up Button

The viewing order of the images will count down through the list to the first image then return to the last image and countdown through the list again.



Viewing images with the Down Button

The viewing order of the images will count up through the list to the last image then return to the first image and count up through the list again.

Viewing Real-time Video



In order to view real-time video on the TV after connecting, please refer to the following:

1. Turn on the TV and change the TV to the VIDEO mode (the same settings you would select when using your VCR).
2. Power on the camera and select Camera mode.
   The real-time video being captured by the camera will be displayed on the TV.

Note: If the image appears on a color television in black and white, try changing the TV setting on the Camera Mode LCD menu.

Connecting to the VCR

1. Plug one end of the included video cable into the VIDEO IN terminal at the back of your VCR.
2. Plug the other end of the cable into the camera's VIDEO terminal.

Note: Ensure that your TV and VCR are properly connected.

Recording Real-time Video

In order to record video after connecting to the VCR, please refer to the following:

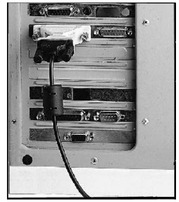
1. Power on the VCR, TV, and the camera.
2. Change the TV to the Video mode. The object in front of the camera will appear on the TV.
   Note: From the camera mode LCD menu, disable the information display function.
3. Aim the camera at the desired subject.
4. When you are ready press the **VCR's** Record button.
   Note: All recording functions are controlled using the VCR.

Note: To continuously view or record real-time video ensure the camera menu's AUTO-OFF function is set to NO.

With ViewFun (Chapter 5),
the camera can display real-time video on the PC!

Connecting to the PC

1. Plug one end of the cable into the **RS232** or **USB** port at the back of your computer.



RS232 Connection



USB Connection

2. Plug the other end of the cable into the camera's **RS232** or **USB Terminal**.
3. Turn the camera on.



RS232 Connection



USB Connection

<u>Note: In order to use the USB connection you must be running Windows 98</u>.

After connecting you can transfer images from the camera to your PC by referring to the next section.

Chapter

4 Software Applications

Software Installation

Windows 95/NT 4.0/98

1. Insert the installation CD into your CD-ROM drive.

2. Click on **Start** and select **Run**.



3. In the **Run** dialog box, type "***drive*****:\run.exe**" where *drive* is your CD-ROM drive and click **OK**.



4. Click **Install** on the Tutorial screen and follow the on-screen instructions.

Windows 98 User's Note: For Plug n' Play installation, please refer to the following:

1. After connecting the camera to the PC using the USB cable, a warning will appear.

2. Insert the Installation CD when prompted (asked for a driver), and continue to follow all on-screen instructions.

Transferring Images to the PC (Importing)

Once you have installed all of the required software (described in the previous chapter) and have captured images, you will want to connect your camera to the PC so that you can transfer your images for editing or storing.

Note: Connecting the camera to the computer renders the camera buttons inoperable. However, several functions can be controlled through the Control Panel as described later in this chapter.

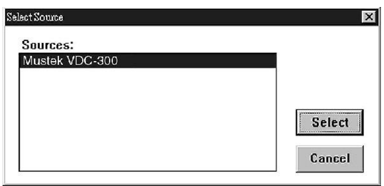
Transferring Images to the PC

The images will be transferred (Imported) from one of three sources:

1. The internal memory of the camera
2. The CF card
3. A PCMCIA CF card reader

To transfer images to the PC (Import):

1. Open an image-editing application. We will use **iPhoto Plus 4** as an example.
2. From the **File** menu, choose **Acquire** and click **Select Source**. The Select Source dialog box appears.
3. Choose Mustek VDC-300 and click **Select**.



4. Return to the **File** menu, select **Acquire** and click **Image.** The Acquire Image dialog box appears.

5. Select **New Image** and click **Acquire**. The Select image source dialog box appears requesting you to select the source of the images.



Note: If the Photo Album is already open, select **Import** from the Camera menu or click the **Select Image Source icon.**



6. Check the Preview Thumbnail box if you want to view image thumbnails in the Photo Album, otherwise, only image information will be displayed.

7. Click on the source (Internal memory, CF card, or CF card reader) of the images you want to import. The Photo Album opens with the source images.

Note: Clicking the **Cancel** button allows you access to the Photo Album without importing any images.
If you were already in the Photo Album, clicking the **Cancel** button will exit you from this function.

Note: When importing images from a PCMCIA CF card reader, it is not necessary to have the camera connected to the computer, as the card reader acts as an independent source. The PCMCIA card reader is used with a CF card connector and is installed into your main computer housing unit as a CD-ROM would be. These CF card readers are also very popular when using notebook or laptop computers, and many of them are often equipped with a CF card reader.

The Photo Album

Import: Allows you to move images from the CF card, card reader, or internal flash memory into the computer.

Transfer: Allows you to transfer the selected image(s) to an application (e.g. iPhoto Plus 4).

Preview: Allows you to view selected image(s) in the Photo Album.

Select All: Allows you to select all of the images to delete, protect/unprotect or transfer.

Unselect: Allows you to unselect the selected images.

Delete: Allows you to delete the selected image (unprotected).

Delete All: Allows you to delete all of the unprotected images.

Menu Bar: Contains all of the functions of the software.

About: Contains the current driver version and the copyright notice.

Help: Allows you to enter the camera's complete on-line help system.

Control: Allows you to control the functions of the camera from inside the computer.

ViewFun (Windows 98): Opens the camera's image capturing software allowing you to record video clips and capture images.

Protected Image: Has a locked symbol displayed.

Photo-Page: Displays the captured images.



Upload: (from the camera menu) Allows you to transfer images from the computer to the camera or to the CF card from the menu bar.

Displayed Image: An image transferred to the Photo Album displayed with it's image number and resolution.

Next Page Arrow: Allows you to turn the page by clicking.

Setting: (from the camera menu) Allows you to input the baud rate, select the language, and displays the com port setting.

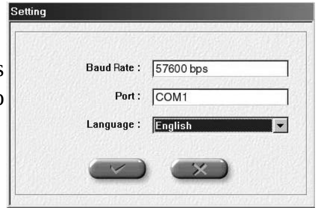
Selected Image: A displayed image in a light green box.

Page Index: Lists the number of images in the folder as well as the current page.

Source Icon: Displays the original source (Internal Memory, CF card or PCMCIA card) of the images displayed.

The Photo Album

The Setting Functions



This feature displays or allows you to adjust the settings used to communicate with the camera.

Baud Rate

This is the rate at which the camera and computer communicate with each other through the serial port.

The USB baud rate is automatically determined, whereas, the RS232 baud rate has four possible settings.

<u>RS232 Baud rates</u>

1. 19200 bps (bits/second)
2. 57600 bps
3. 115200 bps
4. Auto Detect

The computer will auto-detect the baud rate and communicate with the camera using the highest setting. Some high quality images cannot be transferred at this rate and therefore, you must manually select a slower baud rate.

Com Port (RS232 Serial Connection only)

This is the PC port that you connect the RS232 cable into. This setting function automatically detects the Com Port and displays this location in the settings function, so that you are able to properly communicate between the camera and PC.

Language

This setting allows you to change the language that is used for displaying the camera settings and functions. Choose from English, German, French, Spanish, Italian, Dutch, and Portuguese.

Selecting Images

Images must be selected prior to being transferred, downloaded, or deleted.

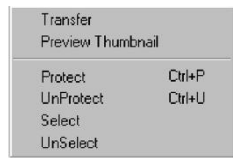
Note:
- *Unselected* images have no colored box around them.
- *Selected* images have a green box around them.
- *Protected* images have a lock icon below them.

Selecting individual or multiple images

You can manually select an image by clicking on it with your mouse.

There are three ways to select multiple images:

1. Click the Select All icon and all of the images currently in Photo Album are automatically selected.
2. Hold down the keyboard **Ctrl** key, and then click each image you want to select.
3. Right-click on an image and a pop-up box will display, choose **Select**. Each image that you do this for will remain selected.



To select a series of images:

- Hold down the keyboard **Shift** key, and click both the first and the last image you wish to select. All of the images between those two selections will also be selected.

Protecting Images

To Protect/Unprotect an image in the Photo Album:

- **right**-click on the image and a pop-up box will display.
- select **Protect/Unprotect** to engage or disengage the lock function.

Deleting Images

To delete an image:

- select an image by clicking on it.
- ensure that it is unprotected (see above).
- click the **Delete icon** or select **Delete** from the Camera menu.

To delete all the images:

- ensure that all unwanted images are unprotected (see above).
- click the **Delete All icon** or select **Delete All** from the Camera menu.

The Control Panel

This panel allows you to control certain camera functions while the camera is hooked up to the computer. Click on the Control icon  to access the Control Panel.

Camera Mode:

This mode allows you to control the following image capturing features:

1. White Balance
2. Exposure
3. Quality
4. Flash Mode (Red-eye)
5. The Shutter Button
6. LCD On/Off

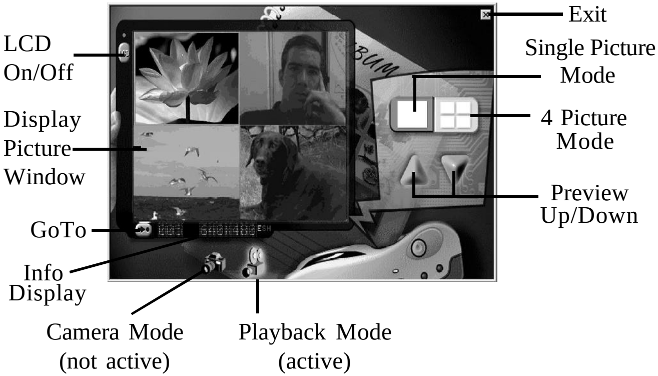
Control Panel: Camera Mode



Capturing Images using the camera software:

1. Connect the camera to the PC as described in the previous chapter and open the Photo Album.
2. Click the **Control icon**  or from the Camera menu select **Control**. The Control Panel will appear in Camera mode.
3. Position the subject in the Display Picture Window and make the necessary adjustments to the Control Panel settings (quality, flash, etc.).
4. From the Control Panel, click the **Shutter** button.
   - A beep will sound
   - The orange/green LED will blink
   - The captured image will remain frozen in the Display Picture Window until the camera is finished processing the image.
   - The Display Picture Window returns to live video and it is possible to capture another image.

Control Panel: Playback Mode



Playback Mode:

This mode allows you to preview your images in either single picture or 4 picture mode before transferring them to the computer.

1. Select the display type (single or 4 picture mode).

2. Use the Up/Down buttons to scroll through the pictures.

3. Using the GoTo button allows you to immediately view a specified image by typing in its image number and clicking Enter.

Transferring Images

• To the PC (Import)

This function allows you to import images into the PC from the camera's internal memory, CF card, or a CF card reader.

To import images:

1. Click on the **Import icon** . The Select Image Source dialog box appears (shown earlier in this chapter).
2. Click on the source of the images. The selected images are imported into the Photo Album.

• To an image editing application (Transfer)

This function allows you to transfer selected images to an image editing application.

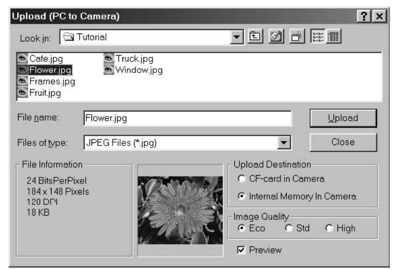
To transfer images:

1. Select the images you want to transfer (refer to Selecting Images).
2. Click the **Transfer icon** .

   The images automatically transfer into the image editing software that you used to open the Photo Album.

• To the camera (Upload)

With the digital camera, you can upload an image from your PC to the camera for storage or transportation. The image will be scaled to 640 x 480 pixels when uploaded to the camera.



To upload an image:

1. Open the Photo Album.
2. From the Camera menu, select **Upload**. The Upload dialog box appears.
3. Select the image file to send to your camera.
4. Select the Upload destination. You have two choices: the camera's internal memory or the CF card (if installed).
5. Select the image quality (**Eco**nomic, **St**andar**d**, or **High**) to determine the quality of the images after they are uploaded.
6. Click the **Upload** button to initiate the transfer.

When the transfer is complete, the uploaded image becomes the last, or most recent image in the upload destination.

Note: Most common image file types (e.g. .jpg, .bmp, .tif) can be uploaded to the camera. However, all uploaded images automaically resize to 640x480 pixels.

The Help System

This easy-to-use system contains detailed information about the camera topics and procedures, enabling you to use and understand your camera and its functions.

There are a couple ways to use help:

• Simply point to a function on the Photo Album or ViewFun user interface and a help tag (tool tip) will tell you what it is.

• Clicking on Help, as an icon or from the menu bar, will bring up an on-line help system. Simply click on the topic you wish to view and the help system will guide you through to the desired outcome. OR select search and individually select the topic heading that you would like assistance with.



Chapter

5 ViewFun

ViewFun for Windows 98

ViewFun is specially designed software that makes the camera's image and video capabilities simple to use.

Hardware Installation

- Connect the USB cable to the USB port at the back of the computer.
- Connect the USB cable to the camera's USB terminal.

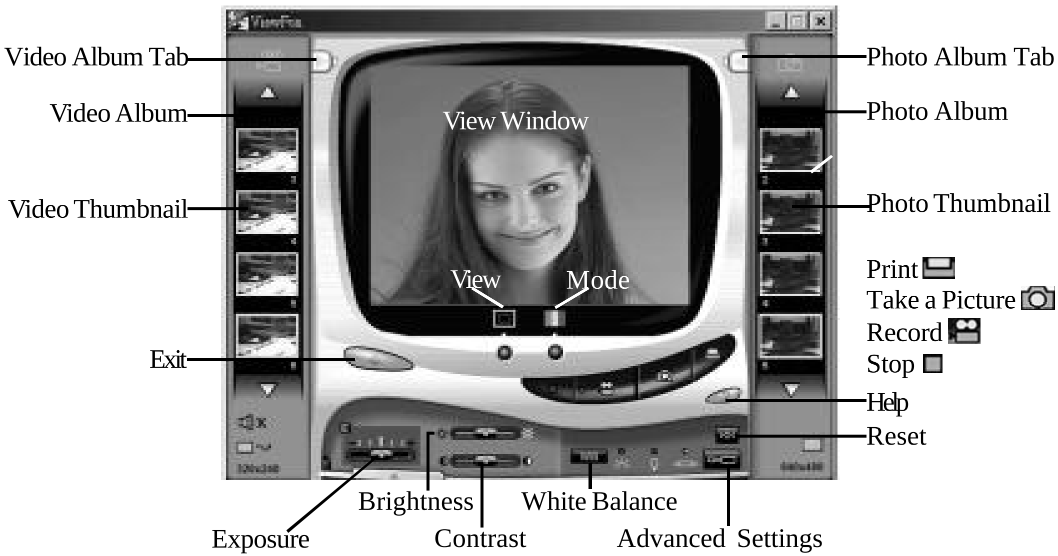


Starting ViewFun

Ensure that you have installed the bundled software.

1. Power on your computer and camera.
2. From the Windows 98 Start menu, choose **Programs/VDC-300/ViewFun** **OR** click the **ViewFun icon** while in the Photo Album.
   ViewFun appears displaying the current camera view.

Note: If no video appears in the View Window, make sure the camera is powered on and is correctly connected to the USB port.



Functions

The most important part of ViewFun are the controls. These buttons allow you to control ViewFun's functions.

Record Video 
Clicking here starts the recording of a video clip (.AVI file).

Stop 
Clicking this button stops the recording of a video clip and stores it in the Video Album as a numbered Thumbnail.
Note: This button also stops the capturing of images if Auto Snap (Advanced Settings Photo Tab) has been executed.

Take a Picture 
Clicking this button captures an image (1 frame) and sends it to the Photo Album as a numbered Thumbnail.
Note: If Auto snap has been selected, clicking this button will take a series of images and store them in a predetermined destination.

Print 
Clicking this button captures whatever image is in the View Window and prints it directly to the printer.
Note: This function does not work with a video clip.

Help 
Clicking this button accesses the complete ViewFun on-line help system.

Exit 
Clicking this button exits ViewFun.

View Window

The View Window is capable of displaying the live video in a number of different ways.

View 

Full View allows the user to view a larger image (320x240 pixels) but slows the frames per second (fps). Small View provides the user with a smaller image (160x120 pixels) but increases the fps for a smoother looking video.

Mode 

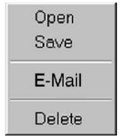
This button allows you to choose the display mode, Color or Black and White (B/W). Color captures images in 16.7 million colors and B/W captures images in 256 shades of gray, therefore, files captured using the color mode require more memory.

The Video Album 

Once you have located the Video Thumbnail that you would like to view, simply double-click it and it will automatically open in the video displaying software, Media Player.

Video Album Tab 
Clicking here opens the Video Album. A green light indicates that the Video Album contains Video clips. An unlit light indicates that the Video Album is empty.

Video Thumbnail



To Open (View), Save, E-mail, or Delete your captured video clips **right-click** the desired video thumbnail. A pop-up menu appears with the following options:

Open: opens the selected video thumbnail into the video displaying software, Media Player.

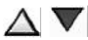
Save: opens a Save As dialog box allowing you to rename and save the video clip within your computer system.

E-mail: opens the E-mail setting box and automatically attaches the selected video thumbnail (.AVI file) to the e-mail. The E-mail setting box enables you to enter the destination e-mail address and type an attachment. Clicking the **To:** button opens the Address book, allowing you to store addresses and add additional destination addresses to your e-mail.

Note: This function is subject to Internet service provider limitations

Note: in order to enable this function it is first necessary to setup your e-mailing parameters in the Advanced Settings, E-mail Folder, described later in this chapter.

Delete: deletes the selected video thumbnail.

Video Album Scroll Arrows 

These arrows allow you to scroll through all the Video Thumbnails in the Video Album. A lit arrow means that there are more Video Thumbnails in the direction indicated. An unlit arrow means that there are no Video Thumbnails in the direction indicated.

Close 

Clicking this tab closes the Video Album.

The Photo Album



Once you have located the Photo Thumbnail that you would like to view or edit, double-click it and it will open in the image editing software, iPhoto Plus 4.

Photo Album Tab 

Clicking here opens the Photo Album. A green light indicates that the Photo Album contains images. An unlit light indicates that the Photo Album is empty.

Photo Thumbnail

To Open (View), Save, E-mail, Print, or Delete your captured video clips **right**-click the desired Photo Thumbnail. A popup menu appears with the following options:

Open: opens the selected Photo Thumbnail into the default image editing software, iPhoto Plus.

Save: opens a Save As dialog box allowing you to rename and save the photo (.JPG file) within your computer system.

E-mail: opens the E-mail setting box and automatically attaches the selected Photo Thumbnail (.JPG file) to the e-mail. The E-mail setting box enables you to enter the destination e-mail address and type an attachment. Clicking the **To:** button opens the Address book, allowing you to store addresses and add additional destination addresses to your e-mail.



Note: Subject to Internet service provider limitations

Note: in order to enable this function it is first necessary to setup your e-mailing parameters in the Advanced Settings, E-mail Folder, found later in this chapter.

Print: prints the selected Photo Thumbnail to the default printer.

Delete: deletes the selected Photo Thumbnail.

Photo Album Scroll Arrows

These arrows allow you to scroll through all the Photo Thumbnails in the Photo Album. A lit arrow means that there are more Photo Thumbnails in the direction indicated. An unlit arrow means that there are no Photo Thumbnails in the direction indicated.

Close

Clicking this tab closes the Photo Album.

Settings

The settings are accessed by clicking the tab on the left side of the Settings panel. These settings are used to alter the images or the video that you capture. They must be set before capturing an image or video to have an effect.

Exposure Brightness



Contrast

Exposure

This setting allows you to control the amount of light captured with images. In bright conditions it is preferable to capture less light (-), whereas, in darker conditions it is preferable to capture more light (+).

Brightness

This setting allows you to adjust the overall amount of light displayed in an image, making it appear bright ( ) or dark ( ).

Contrast

This setting allows you to adjust the disparity in tone between the dark and light areas of an image. Positive values ( ) create greater differences between dark and light areas of the image, whereas, negative values ( ) create greater similarities between the dark and light areas of the image.

White Balance

Clicking this button adjusts the camera's color sensitivity to match the prevailing color of white outdoor light, yellow indoor light, or (sometimes) greenish fluorescent light. Select the white balance mode that most closely matches the light in which you're using the camera.

Outdoor **:** for natural light

Indoor **:** for incandescent lighting (bulb light)

Indoor **:** for fluorescent lighting

Reset

Clicking this button causes all the control settings to return to their original default settings.

Advanced Settings

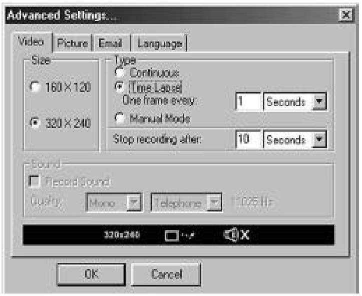
The Advanced Settings provide advanced controls for video or image capturing along with setting folders for both e-mail and language. Simply open the Advanced Settings and click on the appropriate folder.

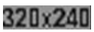
The Advanced Settings

The Advanced Settings contains four folders: Video, Picture, E-mail, and Language.

To return to the main screen after making changes to a particular folder, click **OK** to accept the changes, or **Cancel** to ignore the changes.

The Video Folder



Size 

This setting controls the frame size (160x120, 320x240) of the video clip you are going to capture.

Note: The small frame size can capture more frames per second.

Continuous 

Select this setting to continuously capture video. The recording will automatically stop after the period of time (seconds, minutes) specified in the Stop Recording After box or it can be stopped by clicking the Stop button.

Time Lapse 

This feature controls the image capturing rate (per second or minute) of the camera. The recording will automatically stop after the period of time (seconds, minutes) specified in the Stop Recording After box or it can be stopped by clicking the Stop button.

Manual Mode 

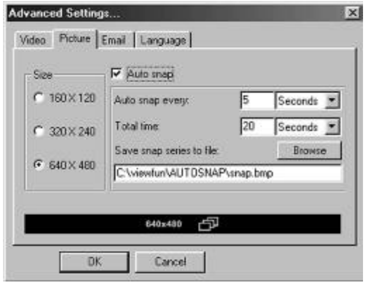
This feature allows you to manually control the video capturing rate by clicking the Record button to capture images in video format. Each click will capture one image in AVI video format.

Record Sound 

If your computer has audio recording capabilities (microphone), selecting this feature enables you to record sound and video simultaneously on the same AVI file. The better the audio quality (CD) that you select, the more memory space needed to store it.

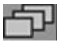
If you do not have or use audio recording capabilities the No Sound icon will automatically appear. 

The Picture Folder



Size 

This setting controls the frame size (160x120, 320x240, 640x480) of the image you are going to capture. Smaller image frame sizes require less memory space to store the image.

Auto Snap 

Checking this box enables the user to automatically capture images at regular intervals (e.g. Auto snap ever: 5 seconds) over a specified period of time (e.g. Total time: 20 seconds).

For example, Auto snap every 5 seconds for a Total time of 20 seconds will capture 4 images starting 5 seconds after you click the Take a Picture button on the main screen.

Note: Auto snap images do not appear in the Photo Album. They are saved to a predetermined destination (see below).

Save Snap Series to file:

Using the Browse button you can determine where to save the series of images that are going to be captured while using the Auto Snap function.

Note: The default destination for all captured Auto snap images is C:\ViewFun\AUTOSNAP where they appear as snap bitmap files (e.g. snap1.bmp, snap2.bmp, etc.).

The E-mail Folder



This folder allows you to enter required information that enables you to send captured video clips or images to the Internet using your SMTP address/account.

Note: Subject to internet service provider limitations

Only after the E-mail folder setup has been completed is it possible to use the Mail command found by **right-clicking** the desired video or image thumbnail.

Mail Server: enter your SMTP address (e.g. Mailserver.com).

Your E-mail Address: enter your full e-mail address (e.g. YourID@Mailserver.com).

Video/Picture file:

- **Compression Level:** select the desired compression level. Compression level and file quality have an inverse relationship. For example, higher file compression levels produce lower file quality and smaller file size.

Note: Smaller files are faster to send over and download from the internet.

- **Attach File Name:** to change the default (Video# or Pic#) file name click Change and enter the desired new default file name.

Note: It is not necessary to add the file extension (.AVI or .PIC).

The Language Folder

This folder provides you with seven different language options. Select the language you want your ViewFun application to appear in.

Recording a Video Clip

1. Aim the camera at the subject.

2. Click the **Record** button.

3. Click the **Stop** button when you want to finish recording, or it will automatically stop. A numbered **Video Thumbnail** will appear in the **Video Album**.
NOTE: Longer recordings occupy more memory space.

4. Open the **Video Album** by clicking the **Video Album Tab**.

5. Double-click the **Video Thumbnail** to view it in a video displaying software.

Taking a Picture

1. Aim the camera at the subject.

2. Click the **Take a Picture** button. A numbered **Photo Thumbnail** will appear in the **Photo Album**.
NOTE: Larger Images occupy more memory space.

3. Click the **Photo Album Tab** to open the **Photo Album**.

4. Double-click the **Photo Thumbnail** to view it in iPhoto Plus 4.

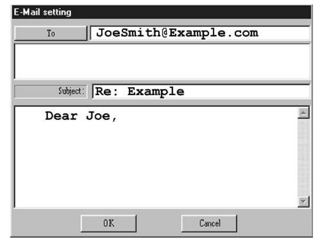
E-mailing a Video Clip or Picture

Note: In order to enable this function it is first necessary to setup your e-mailing parameters in the Advanced Settings, E-mail Folder, found earlier in this chapter.

1. From the Video or Photo Album, **right**-click the desired Thumbnail. A popup menu will appear.

2. Click on **E-Mail.** The E-Mail setting box opens with the selected Thumbnail automatically attached to the e-mail.

3. Enter the destination e-mail address and type an attachment if desired.



4. Click **OK** to e-mail your message and the attached Video or Photo Thumbnail file.

Note: Subject to Internet service provider limitations.

Appendices

Appendices

	Symptom	Cause	Solution
Power Supply	No Power	1. Batteries not loaded correctly 2. Dead batteries 3. Wrong AC adapter	1. Reinstall batteries 2. Replace batteries 3. Use only recommended AC adapter
	Sudden power failure	1. Low battery power 2. Auto Power Off function engaged	1. Replace batteries 2. Turn power back on
Capturing Images	No capture when shutter is pressed	1. Operation Mode Selector set to Playback mode. 2. Memory is full.	1. Set Operation Mode Selector to Camera mode. 2. Delete images.
	Inaccurate color capture	1. Indoor fluorescent lighting 2. Indoor incandescent lighting 3. Outdoor natural lighting	1. Change White balance to Indoor+ setting. 2. Change White balance to Indoor- setting. 3. Change White balance to Outdoor setting. ** We recommend using Auto White Balance**
	Image is too dark	Not enough light	1. Change Iris setting to (F2.8) 2. Use the flash (see Chapter 2)
	Image is too bright	1. Strong direct or reflected light 2. Subject is too close to use flash and large (F2.8) iris setting	1. Change Iris setting to (F8.0) 2. Change Iris setting to (F8.0) ** If using flash and subject is further than 1.2 meters set Iris to (F2.8) **
	Blurry or out of focus	Distance from subject is not correct.	Refer to the Specifications/Focus Range for details.
	Redeye	Reflection of light (flash) off the retina of the human eye	Change the Flash to 1 of 2 Redeye settings *On- *Auto-

	Symptom	Cause	Solution
Playback	No Image is present	1. Operation Mode Selector is set to camera mode 2. If using a TV, wrong channel is selected 3. Not connected properly 4. Wrong TV system	1. Set selector to Playback mode 2. Set TV to correct channel for video playback 3. Reconnect the cables 4. Use NTSC or PAL TV system only.
Transfer	Cannot open the Photo Album	1. Software is not installed 2. Not using Windows 98 with USB connection	1. Install the software (see chapter 4) 2-1. Use Windows 98 as your Operating system 2-2. Use RS-232 connection (see chapter 3)
	Cannot transfer data	1. Incorrect cable connection 2. Camera is not turned on	1. Reconnect the cables 2. Turn on the camera
	CF Card error	1. CF Card is not formatted 2. Card memory exceeds 32 MB	1. Reformat through DOS using CF Adapter and PCMCIA slot. 2. Replace card with lower memory capacity.
Deletion	Cannot delete image	1. Operation Mode Selector is in Camera mode 2. The image is protected 3. There are no images to delete	1. Select Playback mode/Delete Menu 2. From Playback mode, unprotect the image 3. Have fun. Take pictures.
USB	"Device not ready" OR Connection Failure	1. Camera is not powered on 2. USB not connected properly 3. USB host controller problem 4. USB data transfer error 5. Hardware compatibility problem	1. Power on the camera 2. Ensure USB cable is properly connected 3. Refer to the Control Panel/Systems/Device Manager for more details 4. Unplug and reconnect the USB cable 5. Contact your computer vendor for help

Specifications

CCD 1/4 inch 350K pixels progressive color

LCD 1.8" color video

Resolution 640 x 480
(Three compression rates: ECON, STD or High)

Memory 2MB built-in
(max 46 ECON, 20 STD or 8 High Images)
CF memory card interface

Operating Modes Dual Mode
(Camera and Playback)

Optics Optical Viewfinder
Flash (on, on red-eye, off, auto, auto red-eye)

Compression Standard JPEG file YUV (4:2:2)
24 bit color

Digital Output
(1) USB-baud rate 12 M bps
(2) RS-232-baud rate115200, 57600, The following represents terms used throughout the manual, and are defined here for your convenience.

Baud rate: Is the speed at which the computer and camera communicate with each other. It is sometimes necessary to decrease the baud rate because the computer cannot process image information at high speed.

Com port: Is the physical port in the back of the computer where you can connect external devices such as digital cameras and modems.

Dialog box: An on-screen box that conveys or requires information from the user.

Exposure: controls the amount of light (brightness) that appears in a captured image.

Flash card: Is an optional external device that can be inserted into the camera and allows you to store images.
(available in 2MB~32MB formats).

Fluorescent light: What makes this type of lighting different is that it does not contain all the colors of the visible spectrum and it flickers which causes it to appear greenish.

Icon: Is a graphic (picture form) representation of a particular feature/function or program/file.

Incandescent light: These tungsten-halogen lights (household light bulbs) shine at a constant brightness and create a warmer, yellowish caste.

Iris: A feature that allows varying degrees of light into the camera by adjusting the size of the lens opening, increasing or decreasing the amount of entering light.

Glossary

The following represents terms used throughout the manual, and are defined here for your convenience.

Baud rate: Is the speed at which the computer and camera communicate with each other. It is sometimes necessary to decrease the baud rate because the computer cannot process image information at high speed.

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Icon: Is a graphic (picture form) representation of a particular feature/function or program/file.

Incandescent light: These tungsten-halogen lights (household light bulbs) shine at a constant brightness and create a warmer, yellowish caste.

Iris: A feature that allows varying degrees of light into the camera by adjusting the size of the lens opening, increasing or decreasing the amount of entering light.

LCD: A Liquid Crystal Display is a low-powered display that uses rod shaped crystal molecules that change their orientation when an electrical current passes through them. This allows you to display and view your images.

LED: A Light Emitting Diode is a small electronic device that emits light when a current flows through it. It signals you of a particular feature or function.

NTSC: A National Television Standards Committee television is one that uses 525-line frames and displays full frames at 30 frames / second.

PAL: A Phase Alternative Line television is one that uses 625-line frames and displays full frames at 25 frames/second. PAL is the common system used in most European countries.

Pixels: The smallest element that a device can display on-screen or out of which the displayed image is constructed.

RS232: Is the terminal port inside the camera that is used to connect the camera to the computer.

TWAIN: Technology Without An Interesting Name is the industry standard protocol that allows external devices to communicate with your computer.

Upload: Is the transfer of information from your computer to an outside source, such as your camera.

USB: Universal Serial Bus is a peripheral bus specification that eliminates the need to install cards and reconfigure the system. USB equipped PCs allow computer peripherals to be automatically configured as soon as they are physically attached - without the need to reboot or run setup.

White Balance: White Balance adapts the camera's color sensitivity to simulate the prevailing color of white outdoor light, yellow indoor light, or greenish fluorescent light. It can be controlled either automatically or manually.

Technical Support

If you need help installing or using the digital camera, please call Technical Support.

Mustek, Inc.
121 Waterworks Way, Suite #100
Irvine, CA 92618, USA
TEL: 1-949-788-3600
FAX: 1-949-788-3670
http://www.mustek.com

Mustek Computer GMBH
Hellersbergstr. 2a
41460 Neuss, Germany
TEL: 49-2131-162840
FAX: 49-2131-103830
BBS:49-2131-167104
BBS:49-2131-130052
http://www.mustek-europe.com

Mustek Systems, Inc.
No. 25 R&D Road 2
Science-Based Ind'l Park
Hsinchu, Taiwan, R.O.C.
TEL: 886-3-5779373
FAX: 886-3-5784139
http://www.mustek.com.tw

Product Repairs

For Product repairs please follow these steps:

1. Call the technical support department for a Return Material Authorization (RMA) number and refer to this number in all future calls.

2. Consult your dealer regarding proper repair procedure.

3. For repairs being shipped to the manufacturer, please write the RMA number clearly on the outside of the package and send it postage paid, prepared and packaged appropriately for safe shipment.

Product Returns

- Users must return the products to their point of purchase for a refund or credit, according to the dealer's policy.